

I. AMENDMENT

In the Claims:

The following Listing of Claims replaces all prior versions and listings of claims in the application.

Listing of the Claims:

- 1-3. (Canceled)
4. (Currently Amended) The method of claim ~~[[3]]~~26, wherein the side chain of the first substitute amino acid is an aliphatic side chain.
5. (Currently Amended) The method of claim ~~[[3]]~~26, wherein the first substitute amino acid extends the side chain as compared to the first amino acid.
6. (Withdrawn) The method of claim 5, wherein the first substitute amino acid adds a $-\text{CH}_2/\text{CH}_3$ group to the side chain as compared to the first amino acid.
7. (Withdrawn) The method of claim 5, wherein the first substitute amino acid adds two $-\text{CH}_2/\text{CH}_3$ groups to the side chain as compared to the first amino acid.
8. (Currently Amended) ~~[[The]]~~A method of claim 3 for preparing a peptide antigen with modulated immunogenicity comprising substituting at least a first amino acid located in a CTL epitope with a first substitute amino acid that is a non-natural amino acid selected from the group consisting of γ -aminobutyric acid, norvaline, norleucine, isophenylalanine, phenyl glycine, homolysine, γ -methyl L-leucine, homophenylalanine, 2-amino 2-hydroxy acetic acid, homoserine, homoleucine, and ornithine, wherein the first substitute amino acid shortens the side chain as compared to the first amino acid.
9. (Canceled)
10. (Withdrawn) The method of claim 8, wherein the first substitute amino acid reduces two $-\text{CH}_2/\text{CH}_3$ groups on the side chain as compared to the first amino acid.

11. (Canceled)
12. (Withdrawn) The method of claim 4, wherein the first substitute amino acid eliminates an $-NH_2$ group from the side chain as compared to the first amino acid.
13. (Withdrawn) The method of claim 4, wherein the first substitute amino acid adds an $-NH_2$ group to the side chain as compared to the first amino acid.
14. (Currently Amended) The method of claim ~~[[3]]~~26, further comprising identifying the CTL epitope of the antigen prior to substituting the at least a first amino acid.
15. (Currently Amended) The method of claim ~~[[3]]~~26, further comprising modeling the CTL epitope while bound in the MHC-I groove.
16. (Withdrawn – Currently Amended) The method of claim ~~[[1]]~~26, further comprising modeling the CTL epitope while bound in the MHC-II groove.
17. (Withdrawn – Currently Amended) The method of claim ~~[[1]]~~26, further comprising substituting a second amino acid located in the CTL epitope with a second substitute amino acid having an extended or shortened side chain as compared to the second amino acid.
18. (Withdrawn) The method of claim 17, further comprising substituting a third amino acid located in the CTL epitope with a third substitute amino acid having an extended or shortened side chain as compared to the third amino acid.
19. (Withdrawn) The method of claim 18, further comprising substituting a fourth amino acid located in the CTL epitope with a fourth substitute amino acid having an extended or shortened side chain as compared to the fourth amino acid.
20. (Currently Amended) The method of claim ~~[[3]]~~26, wherein the antigen is a tumor antigen.
21. (Original) The method of claim 20, wherein the tumor antigen is derived from breast cancer, ovarian cancer, prostate cancer, blood cancer, skin cancer, uterine cancer, cervical

cancer, liver cancer, colon cancer, lung cancer brain cancer, head & neck cancer, stomach cancer, esophageal cancer, pancreatic cancer, or testicular cancer.

22. (Original) The method of claim 21, wherein the tumor antigen is HER-2.
23. (Currently Amended) The method of claim ~~[[3]]~~26, wherein the antigen is a viral antigen.
24. (Withdrawn – Currently Amended) The method of claim ~~[[3]]~~26, wherein the antigen is a bacterial antigen.
25. (Withdrawn – Currently Amended) The method of claim ~~[[3]]~~26, wherein the antigen is a parasitic antigen.
26. (Currently Amended) ~~[[The]]~~A method of claim 3 for preparing a peptide antigen with modulated immunogenicity comprising substituting at least a first amino acid located in a CTL epitope with a first substitute amino acid that is a non-natural amino acid selected from the group consisting of γ -aminobutyric acid, norvaline, norleucine, isophenylalanine, phenyl glycine, homolysine, γ -methyl l-leucine, homophenylalanine, 2-amino 2-hydroxy acetic acid, homoserine, homoleucine, and ornithine, wherein modulation of immunogenicity comprises an increase in the antigen's ability to selectively activate high-avidity CTL precursors.
27. (Withdrawn – Currently Amended) The method of claim ~~[[1]]~~8, wherein modulation of immunogenicity comprises an increase in the antigen's ability to activate low-avidity CTLs.
28. (Currently Amended) The method of claim ~~[[3]]~~8, wherein modulation of immunogenicity comprises an increase in the antigen's ability to protect CTLs from activation induced cell death.
29. (Currently Amended) The method of claim ~~[[3]]~~8, wherein modulation of immunogenicity comprises an increase in the antigen's ability to selectively activate cytokine production.

30. (Withdrawn – Currently Amended) The method of claim [[3]]8, wherein modulation of immunogenicity comprises an increase in the antigen's ability to induce CTL proliferation.
31. (Currently Amended) The method of claim [[3]]26, wherein the substitution increases the affinity of the antigen for a T cell receptor.
32. (Withdrawn – Currently Amended) The method of claim [[3]]8, wherein the substitution reduces interactions that interfere with T cell receptor binding.
- 33-43. (Canceled)
44. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is γ -aminobutyric acid.
45. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is norvaline.
46. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is norleucine.
47. (Currently Amended) The method of claim [[3]]8, wherein the non-natural amino acid is isophenylalanine.
48. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is phenyl glycine.
49. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is homolysine.
50. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is γ -methyl-l-leucine.

51. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is homophenylalanine.

52. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is 2-amino-2-hydroxy acetic acid.

53. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is homoserine.

54. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is homoleucine.

55. (Currently Amended) The method of claim [[3]]26, wherein the non-natural amino acid is ornithine.